SACRED BALANCE

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Ko Putauaki te maunga, Ko Rangitaiki te awa
Ko Ngati Awa te Iwi, Ngati Pahipoto te hapu,
Ko Kokohinau te Marae, Ko Mataatua te waka,
No reira, tena koutou, tena koutou, tena koutou katoa

INTRODUCTION

Putauaki (Mt. Edgecumb) is my scared mountain, Rangitaiki is my sacred river. Ngati Awa is my tribe, Ngati Pahipoto my sub-tribe, and Kokohinau my meeting place. Mataatua is the canoe whose genealogy binds me to my tribe, the nine tribes of my region and the other tribes of the North whose genealogy stems from the same ancestors as mine. These are what give me identity and standing in the world and enable me to acknowledge you.[i]

According to Maori, the creation of all living things on earth is a great epic love story, one in which Ranginui (sky father) and Papatuanuku (earth mother) sacrificed their deep love for each other and separated, because in their earthly embrace they were suffocating their children. Ranginui was pushed into the sky in order that their children could have air, light and space and be able to move freely and grow between them.

Their separation was a heart-wrenching and violent one and it is recorded that the children had to cut the arms of Ranginui off because he would not let go of Papatuanuku. The form of Papatuanuku is female with her head lying face down to the east, her legs to the west. (Smith, 1913:121) When Ranginui was finally positioned in the sky, where he remains today, the blood from his arms dripped down on to Papatuanuku, and hence the *horu* [red oxide of iron was used to paint houses, canoes and the face], and the *pukepoto* [blue phosphate of iron] that his descendants use in painting. (Smith, 1913:121). Initially, Papatuanuku faced upwards towards her husband, but such was the impact of their sorrow, that his tears throughout the day and night caused

heavy rain and snow storms, and her tears caused clouds and mists. Combined they both muffled the light and stifled the air. Their children still could not see and so Papatuanuku's head was turned to face the ground away from the sight of Ranginui. This is why the inner earth still trembles with earthquakes.

Creation

In the historical work "The Lore of the Whare-wananga: Teachings of the Maori College on Religion, Cosmogony and History" published in 1913, Percy Smith translated the following teachings of Te Matorohanga and Nepia Pohuhu:

1. The waters of the ocean that are in the world, were created by waters; then grew [out of them] the land, the Earth, which on maturity was taken to wife by the Sky-father.
2. Next were created the minor vegetation, growing each after its own kind
3. Next were created the trees of every kind, to clothe the skin of the Earth, which had theretofore been naked,.
4. Next the reptiles and insects of every kind
5. Next the animals, dogs, of every species.
6. Next the birds of different kinds to dwell on the plains and in the woods of the Earth, and on Lady Ocean also.
7. Next the moon, the sun and all the stars. When this had been accomplished, the 'World of Light' became permanent.
8. Next [and finally were created] Hine-ahu-one [the first woman] and her daughter Hine-titama; from whom mankind in the world sprung.

By these all, from the very first down to the creation of the man, mentioned each in its own period, growing up in their own time...We now understand that this was the nature of all things and, each thing has its female [counterpart] through which it conceives...there is nothing that stands alone without its female.

Smith: Lore of the Whare Wananga (1913:136)

The seventy children of Ranginui and Papatuanuku were all male and are the ancestors that Maori still acknowledge today, such as Tane Mahuta (god of the forests) and Tangaroa (god of the oceans). Every living being, in is smallest microbial form is descended from Ranginui and Paptuanuku.

Far from this being a vague notion, Maori *whakapapa* (genealogy) is very detailed. Every species of marine life, every plant and animal endemic to this region can be traced back to

Ranginui and Papatuanuku. Maori traditional knowledge of both the genealogy and properties of species and natural conditions is equivalently detailed.

Historian Elsdon Best recorded over 160 Maori names for eels, reflecting the diversity and the significance attached to variations in size, shape, colour, taste, behaviour and habitat. (NZCA, 1997:91)

Botanist James Hector recorded in the 1870's, seventy different Maori names for varieties of flaxes, whereas the Linnaean system recognised only two species. Each of the seventy was known for its specal use. (Park, 1995:47)

The people of Foveaux Strait distinguished twenty different winds. Kai Tahu...had at least fifteen separate terms for the varieties of alpine snow. (NZCA:Thom, 1997:91)

I'm often asked by non-Maori how I rationalise the Maori view of creation and evolution (as in Ranginui (the sky father) and Papatuanuku (the Earth mother) and their children) vs-s-vs the widely held Darwinian explanation. Surely, the Maori explanation is myth and legend, whereas Darwin's theory is scientific fact. There's an assumption made that as an educated indigenous professional I must consign this particular aspect of my cultural heritage to a lesser status than the accepted European cultural explanation. Well, for the record, I don't.

RANGINUI & PAPATUANUKU:THE SURVIVAL OF ALL

To my mind, the Maori explanation of creation and evolution teaches me all I need to know to understand my role in life and attitude towards nature. My heritage teaches me about concepts such as the integrity and inter-dependency of living things. It makes me quite comfortable with the notion that as a human being I am but one part of a whole and that my generation is also simply one strand in the rope of humanity. It pre-determines that the relationship I have with nature is based on kinship and respect and that in order for me to survive in a culturally rich way, I depend on the survival of others, not just other humans, but also plants and animals in the sea as well as on the land. It clarifies, that both male and female elements, are necessary to create and sustain life, be it human, plant or animal. It provides me with a proven framework from which I can analyse and identify risks and benefits to the well-being of all

those areas that form my cultural heritage and encourages me to accept responsibility that in my lifetime I will not contribute to, or allow others to cause, any diminishment to the cultural heritage of my ancestors and descendants, including those yet unborn.

Whatungarongaro he tangata; toitu he whenua

Man will always perish, but the land will remain forever

Those who dispel a Maori or indigenous cosmological view don't seem to realise that the main message of any knowledge system is not whether it is true or false. It's not about ideas being proven or unproved. The purpose of any peoples evolutionary framework is and always will be the social, cultural and ethical values that are promoted amongst one's members.

DARWIN: SURVIVAL OF THE FITTEST

The Darwinian explanation of evolution, for instance, teaches very different values from Maori knowledge of evolution. Lewontin writes "He (Darwin) claimed there was a universal struggle for existence because more organisms were born than could survive and reproduce, and that in the course of that struggle for existence, those organisms who were more efficient, better designed, cleverer and generally better built for the struggle would leave more offspring than the inferior kinds" [RC Lewontin, 1991:9]. A process of natural selection, survival of the fittest. Within this context, humans emerge as superior to all others. Nature is reduced to species who exist independently of each other and who therefore become transferable objects.

The ideology of post-Darwin 'modern' science, including modern biology, as I've been taught, views the components of nature as being passive objects while the external world is seen as the active subject [Lewontin, 1991:12]. Consistent with the value of 'survival of the fittest', this theory takes the view that its up to the natural objects to 'fit' within the external world rather than the other way round or a balance of both, with humans at the top of the evolutionary scale and all others below them.

BIOLOGICAL DIVERSITY, BIOTECHNOLOGY & SCIENCE

The term 'biological diversity' is not translatable to the Maori world view that I recounted earlier. It is in every sense a post-Darwin reductionist construct which separates culture and

spirituality from nature. It removes the inter-relationship between humankind and other living things.

Biotechnology and gene technology in particular, are also borne of the reductionist ideology. Biotechnology is not the technological complement to nature or biodiversity, nor is human gene technology necessarily the complement to human health and well-being, rather both are a reinforcement that the external world, is the principal force by which natural objects must be made "to fit". In today's context the external world is the global economy. The criteria for determining whether something "fits" or not, is profit.

This may seem an unduly harsh viewpoint, research for the sake of research or for solely humanitarian reasons is unfortunately a thing of the past, a casualty of commercial imperatives. Research is now conducted within a competitive and commercially driven framework and that framework also includes the use of intellectual property mechanisms to assert exclusive ownership over genetic resources as well as biotechnological processes.

Critics such as Lewontin contend that *"Science is moulded by society because it is a human productive activity that takes time and money and so is guided and directed by those forces in the world that have control over money and time. People earn their living by science and as a consequence, the dominant social and economic forces in society determine to a large extent what science does and how it does it*" (Lewontin, 1991:3).

Science is not neutral. It is not objective nor is it a universal value that all cultures place at a level superior to or different from social and cultural values and traditions.

In direct contrast to this reality, rather than promote the value and inter-relationship of diverse biological resources which is the global majority view, a greater value is accorded to the reduced identity of biological diversity as genetic resources. Instead of encouraging diverse systems of production for local consumption as a response to a global food shortage, clean water and poverty crisis, priority is given to the establishment of monocultures of 'a super-crop' for trade and export.

Over the past month, the local news has reported stories about cloned sheep, stags than can be altered to mate all year round, cows that can be bred to mature quicker and the list goes on. I can walk into a 'Big Fresh' supermarket and buy *kuku* (mussels), *pipi* (bivalve) all year round. Two questions. Who determined that this was necessarily a good thing? And what are the risks? I don't need to be a marine biologist to know that when one takes a marine resource that is seasonal and turns it into a year long product in a national supermarket chain, at least one of three things has happened. The resource has been:

- genetically modified,
- bred under artificial conditions (i.e. farmed for the trade market rather than harvested as one of many inter-dependent species within the coastal marine environment)
- isolated from the natural eco-system that depends on the presence and inter-action of a diverse range of species.

Increasingly, all three factors are prevalent with the added dynamic of private firms asserting patent and plant variety rights over foods and medicinal plants that Maori have used for generations. If one accepts the philosophy that consumers benefit from having available to them year-long a product that is otherwise seasonal and has been genetically-modified, or that anyone in the world can purchase a traditional *rongoa* (medicine) to cure an illness and that these reasons in themselves constitute a benefit, well, I and many others simply do not agree. Having something available to purchase is not a benefit in itself.

The cost of offering the cure to the global market might mean that the traditional community will end up being prevented from continuing customary usage, instead being forced to buy the cure, even though without their assistance, the cure would never have been developed as a commercial product.

The cost of making available year-round seasonal resources, is that the natural cycle and food chain is adversely affected, and the traditions and knowledge that form the *whakapapa* (genealogy) of that resource are lost. The value of end-products developed from resources and knowledge of indigenous peoples is usually far greater than the benefits returning to those peoples. (Posey & Dutfield, 1996:33)

Mead, Sacred Balance

A CULTURAL & SOCIAL FRAMEWORK FOR ASSESSING RISKS AND BENEFITS

In 1992, Maori Congress submitted a report to the UN Conference on Environment & Development (UNCED Earth Summit). On the issue of biotechnology, Congress stated: "that there be adequate participation of peoples most affected in assessing any risks associated with biotechnology, particularly as they relate to indigenous plants and animals." (Maori Congress UNCED Position Paper, 1992:14).

It isn't always obvious to those uneducated in or dismissal of Maori *tikanga* of the importance of ensuring that the balance of nature is not disrupted. For instance, recently reported was the outcome of a seemingly harmless proposal by an Otago University graduate student who wanted to collect drift seaweed for investigative research. The student wanted to weigh, identify and remove all seaweed cast ashore on one specific beach for a year to gather information on its seasonal availability. After public objections were heard, his application was eventually withdrawn because it did not acknowledge that seaweed was part of the food chain for birds and taking it would disturb wildlife and the beach. [Otago Daily Times, 1/8/97].

As a Maori consumer I am not convinced that year-round accessibility of seasonal foods is a benefit. I treasure the memories and experiences of joining with my *whanau* (family) to gather food. My heritage includes the precept that at certain months of the year, we will have *kina, paua, koura, pipi, kuku, titi, parengo*[ii], and at other times we won't. I don't regard the fact that I can't have these foods all year round as a 'problem that needs to be rectified'. I associate all of these resources as indicative of a season, and within my cultural framework, there are lessons to be learnt about the life-cycle, sustainable management and protocols for gathering, that are superior in value to the taste of those foods in my *puku* (stomach). The seasons, food sources, medicinal sources, harvesting, nurturing are what form my cultural heritage. The respect for the reproduction of life as a continuation of genealogy strikes me as a paramount cultural concern.

Biotechnology in itself will not serve the needs of many if the driving force is the profits of a few. In this sense, gene technology presents more of a risk than a benefit. I am of the view that there is sufficient reason to take a precautionary approach to gene technology. I'm concerned at

the rapid pace by which we are embarking into this uncharted area when it is very clear from my education in Maori *tikanga* that there are significant risks associated with the objectives of this field. Gene technology is an issue of mostly public concern. It deserves more public discussion and input. Social, cultural and ethical concerns are just as important as new technologies.

THE MANIPULATION OF LIVING THINGS

Purists of the "gene technology is for the betterment of the world" philosophy, regard critics such as myself as romanticists, living in the past, unwilling to progress into the modern age. But it isn't a question of modernity - rather it is one of ethics. My cultural framework simply does not enable me to regard as a good thing the manipulation of Ranginui and Papatuanuku's offspring, my ancestors, to such a degreee that the outcome bears little resemblance to the richness of their original form and purpose.

A case in point is the increasing competitiveness of seed companies who are now developing seed strains which by their very nature, will not reproduce and require specially manufactured chemicals in order to fertilise and make them grow. Physicist and eco-feminist, Dr. Vandana Shiva often uses the example of the seed to highlight the direct adverse impacts of gene technology on local indigenous farmers. Shiva writes of the implications of allowing seed companies to assert intellectual property rights over genetically-modified seeds. According to Shiva, "The commoditised seed is ecologically incomplete and ruptured at two levels:

(i) *it does not reproduce itself, while by definition, seed is a generative resource.*
Through technological transformation, biodiversity is transformed from a renewable resource into a non-renewable resource.

(ii) it does not produce by itself. It needs the help of inputs to produce.
As seed and chemical companies merge, the dependence on additional commercial products or 'inputs' will increase, not decrease. She argues that whether a chemical is added externally or internally, as in the new biotechnologies, it remains an external input in the ecological cycle of the reproduction of seed." *[Shiva et al, 1993:50]*

It is this shift from the ecological processes of reproduction to the technological processes of production Shiva contends that underlies both the problem of dispossession of farmers and tribal peoples as well as the problem of erosion of biodiversity.[Shiva et al, 1993:52]

It begs the question, when a seed is altered in such a way that it cannot re-generate, is it still a seed? The Oxford dictionary definition of a seed is *"unit of reproduction of plant, capable of developing into another such plant."* A more fundamental question is who is benefiting from the manipulation and ownership of plants?

In 'lay peoples' terms, when the philosophical leap has been taken to commoditise natural living things and to alter their genetic composition, the issue becomes much wider than a mere resultant product. Belief systems are eroded, traditional knowledge of how to care for plants and animals is lost, customary use of properties of plants are alienated and local communities are prevented from earning a living and providing for their families on their own lands. Seed companies stand to make a lot of money, but it's a lose-lose situation for traditional peoples.

In conclusion, Maori Congress wrote in its 1992 report to the UN Conference on Environment & Development. that "***economic utilisation of the environment must not compromise traditional values, the needs of future generations, or the earth's spiritual integrity***." There's a lot to be said for this approach. A sacred balance of sustainable utilisation and protection of the earth's resources in order for the survival of all, rather than the profits of a few.

In returning to my introduction as my culture requires, I am reminded of the cultural concept of *"te noho kore mana"* (occupation without *mana)* [prestige, meaning, purpose].
My father taught me that this refers to the situation where a group might be living on land without the *mana* over that land - where they have been defeated and bonded to the victor and where they can no longer claim to be keeping their home fires burning.

When an indigenous community or farmer can no longer sustain a viable standard of living on their own land. When they are forced to enter into a commercial arrangement with a company, be it national or international, in order to use their land for someone else's purpose and

commercial profit - then this is *te noho kore mana*. The new technologies can actually serve to disempower indigenous peoples in the most fundamental of ways.

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ENDNOTES

[i] The prefacing introduction in the Maori language is customary. To this day, before any speaker proceeds with their talk, they will always introduce themselves in a similar way, by naming their mountain, river, canoe, tribe and sometime sub-tribe. Note, that the English text is not a literal translation of the Maori language text, rather it is descriptive of the intention.

[ii] Kina, paua, koura, pipi, kuku, pikopiko titi, parengo are all types of customary foods of Maori ommon in New Zealand. Kina (sea urchin), Paua (shellfish *Iris haliotis*), Koura (Crayfish), Pipi, Pikopiko (fern fronds), Kuku (mussels), Parengo (a particular variety of seaweed) and Titi (mutton bird, *Pterodroma cooki*).